

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:

Tomowaki Takahashi

Application No.: NOT ASSIGNED

Group Art Unit: NOT ASSIGNED

Filed: December 15, 2003

Examiner: NOT ASSIGNED

For: CATADIOPTRIC REDUCTION PROJECTION OPTICAL SYSTEM AND EXPOSURE  
APPARATUS HAVING THE SAME

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☐ Copies of IDS citations.
- 1c. ☐ An English language copy of search report(s) from a counterpart foreign application or a PCT International Search Report.
- 1d. ☒ English language translation (Abstract attached to each non-English language publication if indicated) attached to each non-English language publication.
- 1e. ☐ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto) for providing a concise explanation of each non-English publication.
- 1f. ☒ List of Copending Applications (ATTACHMENT 1(f), hereto).
- 1g. ☒ List of Additional Submitted Documents (ATTACHMENT 1(g), hereto).

2. ☒ This Information Disclosure Statement is filed under 37 CFR §1.97(b):

*(Check either Item 2a or 2b or 2c or 2d)*

- 2a. ☐ Within three months of the filing date of a national application other than a Continued Prosecution Application under § 1.53(d);
- 2b. ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application.
- 2c. ☒ Before the mailing of a first Office Action on the merits; or
- 2d. ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.

3. ☐ This Information Disclosure Statement is filed under 37 CFR §1.97(c) after the period specified in paragraph 2 above but before the mailing date of any of a Final Office Action under § 1.113, a Notice of Allowance under § 1.311 or an action that otherwise closes prosecution in the application, AND

*(Check either Item 3a or 3b; Item 3b to be checked if any reference known for more than 3 months)*

- 3a. ☐ The §1.97(e) Statement in Item 5 below is applicable; OR  
3b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  
☐ enclosed.  
☐ to be charged to Deposit Account No. 19-3935.

4. ☐ This Information Disclosure Statement is filed under 37 CFR §1.97(d) after the period specified in paragraph 3 above, but on or before payment of the Issue Fee, AND

- 4a. ☐ The §1.97(e) Statement in Item 5 below is applicable; AND  
4b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  
☐ enclosed.  
☐ to be charged to Deposit Account No. 19-3935.

5. ☐ Statement under §1.97(e) *(applicable if Item 3a or Item 4 is checked)*

*(Check either Item 5a or 5b)*

- 5a. ☐ In accordance with 37 CFR §1.97(e)(1), it is stated that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.  
5b. ☐ In accordance with 37 CFR §1.97(e)(2), it is stated that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known by any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

6. ☒ This is a continuation/divisional/continuation-in-part application under 37 CFR §1.53(b).

*(Check appropriate Items 6a and/or 6b)*

- 6a. ☒ Copies of the publications listed on the attached Form PTO-1449 which were previously cited in prior application Serial No. 09/766,486, filed on January 19, 2001, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. §120, have been omitted pursuant to 37 CFR §1.98(d).  
6b. ☐ Copies of the publications listed on the attached Form PTO-1449 which were not previously cited in prior application Serial No. \_\_\_, filed on \_\_\_, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. §120, are provided herewith.

7. ☐ This is a continuation/divisional application under 37 CFR §1.53(d) or Request for Continued Examination under 37 CFR 1.114.

*(Check either Item 7a or 7b)*

- 7a. ☐ The Issue Fee has not been paid.  
7b. ☐ A Petition to Withdraw from issue under 37 CFR §1.313(c) is filed concurrently herewith or has been granted. A continuation application under 37 CFR §1.53(d) or Request for Continued Examination under 37 CFR 1.114, after payment of the Issue Fee is proper in accordance with 37 CFR §1.53(d)(1)(ii) or 37 CFR 1.114(a), respectively.

8. ☐ This is a Supplemental Information Disclosure Statement.

*(Check either Item 8a or 8b)*

- 8a. ☐ This Supplemental Information Disclosure Statement under 37 CFR §1.97(f) supplements the Information Disclosure Statement filed on \_\_\_\_\_. A bona fide attempt was made to comply with 37 CFR §1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental IDS can be considered as if properly filed on \_\_\_\_\_.  
8b. ☐ This Supplemental Information Disclosure Statement is timely filed within one (1) month of the Notice under 37 CFR §1.97 and 1.98, mailed \_\_\_\_\_. (MPEP 609 C(1), Form & 6.49, Rev. 1, Feb. 2000, pp. 600-107)

9. ☒ In accordance with 37 CFR §1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:

*(Check appropriate Items 9a, 9b, 9c and/or 9d)*

- 9a. ☐ satisfied because all non-English language publications were cited on the enclosed English language copy of the PCT International Search Report or the search report from a counterpart foreign application indicating the degree of relevance found by the foreign office. (See U.S. Patent & Trademark Office's authorization in the Federal Register, Vol. 57, No. 12, January 17, 1992, at page 2031 (Reply to Comment 68).)  
9b. ☐ set forth in the application.  
9c. ☒ satisfied because an English language translation (Abstract attached to each non-English language publication if indicated) is attached to each non-English language publication.  
9d. ☐ enclosed as Attachment 1(e), hereto.

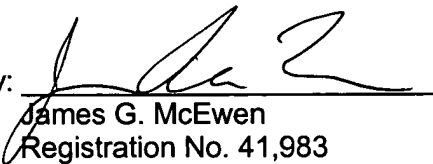
10. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§1.97(g) and (h).

11. The Commissioner is authorized to credit any overpayment or charge any additional fee required under 37 CFR §1.17 for this Information Disclosure Statement and/or Petition to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: DEC 15, 2003  
1201 New York Avenue, NW, Suite 700  
Washington, D.C. 20005  
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By:   
James G. McEwen  
Registration No. 41,983

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 1539.1004rec	APPLICATION NO. NOT ASSIGNED
LIST OF REFERENCES CITED BY APPLICANT  (Use several sheets if necessary)		FIRST NAMED INVENTOR Tomowaki Takahashi	
		FILING DATE December 15, 2003	GROUP ART UNIT NOT ASSIGNED

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLAS S	FILING DATE
	AA	4,779,966	10/1988	Friedman			
	AB	5,089,913	2/1992	Singh et al.			
	AC	5,592,329	1/1997	Ishiyama et al.			
	AD	5,668,673	9/1997	Suenaga et al.			
	AE	5,689,377	11/1997	Takahashi			
	AF	5,691,802	11/1997	Takahashi			
	AG	5,694,241	12/1997	Ishiyama et al.			
	AH	5,406,415	4/1995	Kelly			
	AI	5,506,684	4/1996	Ota et al.			
	AJ	5,515,207	5/1996	Foo			
	AK	5,534,970	7/1996	Nakashima et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLAS S	TRANSLATION YES NO
	AL	61-156737	7/1986	Japan			Abstract
	AM	63-163319	7/1988	Japan			XX
	AN	2-66510	3/1990	Japan			Abstract
	AO	3-282527	12/1991	Japan			Abstract
	AP	4-234722	8/1992	Japan			Abstract
	AQ	5-72478	3/1993	Japan			Abstract
	AR	0736789A	10/1996	Europe			
	AS	19726058A	1/1998	Germany			Abstract
	AT	0770895	5/1997	Europe			

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AU	Japanese Publication No. 64-019317 (January 1989) (Abstract Only)
	AV	Japanese Publication No. 55-012902 (January 1980) (Abstract only).

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. <b>1539.1004rec</b>	APPLICATION NO. <b>NOT ASSIGNED</b>
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		FILING DATE <b>December 15, 2003</b>	GROUP ART UNIT <b>NOT ASSIGNED</b>

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLAS S	SUB- CLASS	FILING DATE
	BA	4,497,015	1/1985	Konno et al.			
	BB	4,666,273	5/1987	Shimizu et al.			
	BC	4,685,777	8/1987	Hirose			
	BD	4,701,035	10/1987	Hirose			
	BF	4,953,960	9/1990	Williamson			
	BG	5,052,763	10/1991	Singh et al.			
	BI	5,194,893	3/1993	Nishi			
	BJ	5,212,593	5/1993	Williamson et al.			
	BK	5,220,454	6/1993	Ichihara et al.			
	BL	5,241,423	8/1993	Chiu et al.			
	BM	5,253,110	10/1993	Ichihara et al.			
	BN	5,333,035	7/1994	Shiraishi			
	BO	5,365,051	11/1994	Suzuki et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	BAA	0243950	11/1997	Europe			
	BBB	58-078115	5/1983	Japan			Abstract
	BCC	63-118115	5/1988	Japan			Abstract
	BDD	4-42208	2/1992	Japan			Abstract
	BEE	4-157412	5/1992	Japan			Abstract
	BFF	5-173065	7/1993	Japan			Abstract
	BGG	07140384	6/1995	Japan			Abstract
	BHH	07140385	6/1995	Japan			Abstract

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	BII	
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EXAMINER	DATE CONSIDERED
<b>*EXAMINER:</b> Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

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*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	CA	5,402,267	3/1995	Furter et al.			
	CB	5,537,260	7/1996	Williamson			
	CC	5,583,696	12/1996	Takahashi			
	CD	5,636,066	6/1997	Takahashi			
	CE	5,534,970	7/1996	Nakashima, et al.			
	CF	5,591,958	1/1997	Nishi et al.			
	CG	5,706,137	1/1997	Kelly			
	CH	5,742,436	4/1998	Furter			
	CI	5,808,805	9/1998	Takahashi			
	CJ	5,414,551	5/1995	Okazaki et al.			
	CK	4,974,919	12/1990	Muraki et al.			
	CL	4,851,978	7/1989	Ichihara			
	CM	4,386,828	6/1983	Hirose			
	CN	4,592,625	6/1986	Uehara et al.			
	CO	5,260,832	11/1993	Togino et al.			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	CP						
	CQ						
	CR						

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	CS	
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EXAMINER	DATE CONSIDERED
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		FIRST NAMED INVENTOR	
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## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	DA	5,448,408	9/1995	Togino et al.			
	DB	3,504,961	4/1970	Hoogland et al.			
	DC	3,737,215	6/1973	De Jager			
	DE	3,897,138	7/1975	Kano			
	DF	3,909,115	9/1975	Kano			
	DG	3,955,883	5/1976	Sugiyama			
	DH	4,080,048	3/1978	Kimura			
	DI	4,770,477	5/1988	Shafer			
	DJ	5,323,263	6/1994	Schoemakers			
	DK	4,812,028	3/1989	Matsumoto			

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	DL	0712019	5/1996	Europe			
	DM	0717299	6/1996	Europe			
	DN	47-35017	9/1972	Japan			X
	DO	6-313845	11/1994	Japan			Abstract
	DP	93/04391	3/1993	WIPO			
	DQ	58-04112	1/1983	Japan			Abstract
	DR	05-173065	7/1993	Japan			Abstract

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	DS	
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EXAMINER	DATE CONSIDERED
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	



## ATTACHMENT 1(f)

LIST OF COPENDING APPLICATIONS	ATTORNEY DOCKET NO.	APPLICATION NO.
	1539.1004rec	NOT ASSIGNED
	FIRST NAMED INVENTOR	
	Tomowaki Takahashi	
	FILING DATE	GROUP ART UNIT
	December 15, 2003	NOT ASSIGNED

The following, prior-filed, copending U.S. patent application(s) is/are listed in accordance with the duty of disclosure provisions of 37 CFR § 1.56, so that the Examiner may consider same should he deem any thereof to be material to examination of the subject application. A copy of the identified copending application(s) is provided pursuant to 37 CFR 1.98(a)(2)(iii), unless domestic priority thereto has been claimed under 35 USC §120, 37 CFR §1.98(d) or where copies have been provided in the parent application.

It is requested that the Examiner acknowledge his consideration of application(s) below-listed by initialing same in the space provided adjacent each such application and that the Examiner sign and date this form at the bottom thereof to confirm such consideration having been given.

**This submission in no way represents an admission that any of the information listed herein constitutes prior art with respect to the subject application and unless and until such prior art status is established, this submission is not a request that the information presented herein be printed on the face of any patent issuing from the subject application in which this information is being filed.**

*EXAMINER INITIAL		U.S. SERIAL NO.	FILING DATE	NAME	ASSIGNEE	Domestic Priority Claimed?
	1	09/659,376	9/8/2000	Toshihiro Sasaya, et al.	Nikon Corporation, Japan	No
	2	09/665,184	9/15/2000	Tomowaki Takahashi	Nikon Corporation, Japan	No
	3	09/764,157	1/19/2001	Tomowaki Takahashi	Nikon Corporation, Japan	No
	4	09/709,518	11/13/2000	Hitoshi Matsuzawa, et al.	Nikon Corporation, Japan	No
	5	09/659,375	9/8/2000	Tomowaki Takahashi	Nikon Corporation, Japan	No

EXAMINER	DATE CONSIDERED
<p><b>*EXAMINER:</b> Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	

**ATTACHMENT 1(g)**

<b>LIST OF ADDITIONAL SUBMITTED DOCUMENTS</b>	ATTORNEY DOCKET NO.	APPLICATION NO.
	1539.1004rec	NOT ASSIGNED
	FIRST NAMED INVENTOR	
	Tomowaki Takahashi	
	FILING DATE	GROUP ART UNIT
	December 15, 2003	NOT ASSIGNED

The following document(s) is/are listed in accordance with the duty of disclosure provisions of 37 CFR § 1.56, so that the Examiner may consider same should he deem any thereof to be material to examination of the subject application. Pursuant to 37 CFR 1.98(a)(2)(iii), a copy of any identified copending application(s) is provided.

It is requested that the Examiner acknowledge his consideration of document(s) below-listed by initialing same in the space provided adjacent each such application and that the Examiner sign and date this form at the bottom thereof to confirm such consideration having been given.

**This submission in no way represents an admission that any of the information listed herein constitutes prior art with respect to the subject application and unless and until such prior art status is established, this submission is not a request that the information presented herein be printed on the face of any patent issuing from the subject application in which this information is being filed.**

**U.S. PATENT DOCUMENTS**

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	2001/0040722 A1	11/15/2001	Shafer et al.			
	AB						
	AC						

**FOREIGN PATENT DOCUMENTS**

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION	
							YES	NO
	AD							
	AE							

EXAMINER	DATE CONSIDERED
<p><b>*EXAMINER:</b> Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	